# SECTION 8 FOREST

## 8.1. Current Programs and Capacity

### *Virginia Silvicultural Water Quality Law*

Enacted by the 1993 Virginia General Assembly with support from the forest industry, the Virginia Silvicultural Water Quality Law is the backbone of the forestry nonpoint source pollution program. This law, which is administered through the Virginia Administrative Processes Act, allows a tiered system of inspections and hearings to prevent nonpoint source pollution. The law also addresses sedimentation in streams. Administration of the law allows for stop-work emergency actions, provision of corrective recommendations and civil penalties where warranted.

The Silvicultural Water Quality Act was amended in 2002 to allow for the issuance of a civil penalty against the operator for failure to notify the Department of Forestry (DOF) of a commercial harvesting operation within 3-days of the start of an operation. This change allows the department to track notification compliance by individual operators. This change gives the State Forester the authority to issue a civil penalty of $250 for the initial violation and up to $1,000 for subsequent violations within a 24-month period.

Code Reference:
Silvicultural Water Quality Law – Code of Virginia Chapter 11 of Title 10.1, article 12 & 10.1-1181.1 through 10.1-1181.7

### *Water Quality Complaint System*

Another process that improves BMP implementation and encourages compliance with the Silvicultural Water Quality Law is the DOF Water Quality Complaint System. DOF personnel investigate all water quality complaints involving forestry operations to document the nature of the problem. In the past, DOF has handled eight to 15 complaints annually with total resolution. This complaint system is a high priority for DOF, ranked second only to forest fire suppression.

### *Education and Technical Assistance*

Through education and technical assistance programs, DOF has heightened water quality awareness among Virginia's forest industry so that it is now institutionalized within the industry. The SHARP Logger Program, an industry-sponsored training program, guides educational efforts with industry and consulting forestry personnel. These programs require a quarterly BMP audit of 60 randomly chosen harvested tracts. In addition all logging jobs exceeding 10-acres are inspected at least twice.

BMP inspections performed by DOF personnel represent the core component of the forestry nonpoint source program. In Virginia there are between 4,000-5,000 logging activities annually that require an average of three (3) inspection trips by staff, resulting in approximately 15,000 inspections annually. Each inspection requires a write-up and data input. Each timber harvesting

activity is compared to acceptable standards as documented in the "Forestry Best Management Practices Manual." Noncompliant owners and/or operators are identified and informed in writing of required corrections. Compliance rates for BMP use has continued to improved since 1989. Moreover, the Streamside Management Zone (SMZ), vital to the maintenance of water quality, continues to be the most well-implemented BMP.

Funding for this program comes entirely through the Commonwealth's general funds with no federal funding support. Some grant money from the Water Quality Improvement Fund program helps to provide support for an innovative logger BMP cost share program administered by DOF.

DOF agency staffing currently consists of an Assistant Director of Forest Management for Water Quality, a Water Quality Program Supervisor at the headquarters level, four (4) Forest Engineers and seven (7) Water Quality Specialists at the Regional and Field levels. There are currently three (3) Water Quality Specialist vacancies within the agency.

## 8.2. Accounting for Growth

The goal of this section is to describe potential and expectation for growth and how any increased loads will be accounted for and addressed.

### Traditional Growth Expectations

In general, the potential for growth in the harvesting of timber is currently dependent on the economy, and in particular, with the number of housing starts. With the need for construction forest products being at an all-time low, the number of timber harvests has been reduced since mid-2008. Housing starts have been cyclic and closely related to the economy. It is expected that if economic growth occurs the number of timber harvests will increase. In conjunction with this, the fragmentation of the forest land base in Virginia has caused the average size of the timber harvest over the past 10 years to decrease from 50 acres in 1999 to 40 acres in 2010. Fragmented forest land results in more individual harvests.

### New Growth Potential on the Horizon

Over the past few years there is a growing emphasis on promoting alternative energy generation using woody biomass (biofuels). In addition, there continues to be significant technological advances for nontraditional uses of wood (bedding/absorbents, composites /polymers, laminates, biorefinery products, etc.) resulting in the utilization of more of the forest biomass found in a unit of forest as well as more forested acres. These new forest products will most likely increase over time. As a result, greater utilization of the forest will increase the impact from harvesting in the future, primarily as it relates to sediment loading. This will require DOF and its partners to ensure that the appropriate BMPs are in place to successfully mitigate the impacts from more intensive forest harvesting.

### Monitoring and Inspections with Growth

Quarterly monitoring of BMP implementation as well as the harvest inspection process will be the primary methods for directing the program in the future. The monitoring will determine the

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sediment loading based upon percent BMP Implementation and the harvest inspection program will determine that actions be taken to direct corrective actions. As the economy improves and biomass harvests increase, this will likely require changes in BMP emphasis, inspections, monitoring and staffing levels.

## 83. Gap Analysis

The average rate for statewide BMP Implementation is currently 82.4 percent. Of the 240 tracts monitored annually less than 2 percent of the sites have any evidence of "active sedimentation" occurring. The BMP implementation rate is slightly higher in the Chesapeake Bay watershed due in part to more moderate topographical features. It is anticipated that the rate of BMP implementation in the bay watershed will need to increase to 90 percent with active sedimentation values in the one percent category to meet the desired sector sediment reduction targets for forest land.

The bay model calculates reductions for sediment pollution by assigning sediment reduction efficiency to a BMP. This is determined using the Revised Universal Soil Loss Equation (RUSLE) model. It has not been proven that the use of the RUSLE model for calculation of sediment loading based on BMP implementation rates is accurate.

The Southern Group of State Foresters Water Resources Committee is currently funding a study with Auburn University, the University of Georgia and the U. S. Forest Service Southern Research Station utilizing the Water Erosion Prediction Project (WEPP) Model and its potential use in quantifying sediment reductions and BMP rates of implementation. Once this study is complete, there should be a more useable tool available to quantify the sediment reductions tied to BMPs for forestry. Until that time, the most useable number should be the amount of "active sedimentation" that is occurring from forestry operations. This number could be easily calculated using the WEPP Model for tracts where active sedimentation is found during the monitoring process. This is an "outcome-based" approach to calculate the tons of sediment loss actually occurring from forestry operations in the bay watershed.

None of these methods takes into account naturally occurring geological sedimentation from undisturbed forests.

## 8.4. Strategy to Fill Gaps

Although 100 percent of all known logging jobs are monitored and BMPs are used on all logging jobs with the result that 98 percent of all logging jobs do not result in sedimentation, the DOF reports that 83 percent of the harvested forest acres in the Commonwealth utilize an appropriate combination of BMP harvesting practices. DOF has been requested to increase the use of effective BMP implementation rate to 95 percent as a means to reduce nonpoint source pollution.

To reach the goal of 95 percent implementation of effective BMPs will take much more education and compliance enforcement. This will be difficult in a time when DOF is contemplating a less rigorous approach in these areas due to budget cuts and staffing limitations. With more monitoring and enforcement needed, reaching the 95 percent goal is contingent upon availability of funding for monitoring of forestry BMPs.

Cooperative efforts in logger education need to continue between DOF and the Sustainable Harvesting and Resource Professional (SHARP) Logger Program, The Virginia Cooperative Extension Service, DCR, Virginia Forestry Association and the Virginia Loggers Association to bring the working logging contractors up to date on the latest BMPs. DOF will need to continue and update the Memorandum of Understanding with DCR and others on operational authorities on timber harvesting activities. DOF will also need to continue to educate landowners as to the need for BMPs to be included in timber sale contracts.

## 8.5. Contingencies

No contingencies are necessary or anticipated

## 8.6. Tracking and Reporting Protocols

DOF currently has a system in place to monitor BMP implementation as well as compliance with the Commonwealth's Silvicultural Water Quality Law. The data is kept in a spreadsheet, which is not conducive to the large amount of data analysis needed. Existing data needs to be moved into a database for easier data analysis and report generation. The DOF currently has mobile data collection capability, which needs to be increased to capture the information required of the BMP monitoring effort.

Reporting should be done using the format that currently supports data collection for BMP implementation. This presents an opportunity to develop a statewide reporting system that could be expanded to collect relevant data from agriculture community, the urban sector, etc.

An annual report is compiled by DOF and is available on the DOF website or by request. It is anticipated that a 5-year report will also be developed and published for public consumption. This report, or portions of it, could be submitted to EPA or combined with information from the other nonpoint source sectors into a single report for EPA.